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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,649	12/31/2001	Robert D. Cavin	42390.P13455	9235

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EXAMINER

LAMARRE, GUY J

ART UNIT	PAPER NUMBER
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2133

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DATE MAILED: 11/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/039,649

Applicant(s)  
CAVIN

Examiner

Guy J. Lamarre, P.E.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. Applicant's letter re: missing parts of 15 Feb. 2002, declaration of 22 Apr. 2002 and IDS of 4 Aug. 2003, have been entered. The Examiner has considered the IDS: PTO Form 1449 will be forwarded when the application is in condition for allowance.

1.1 Pursuant to 35 USC 131, **Claims 1-25** are presented for examination.

### Reassignment Affecting Application Location

2. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2133.

### Claim Rejections - 35 USC ' 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) The invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent

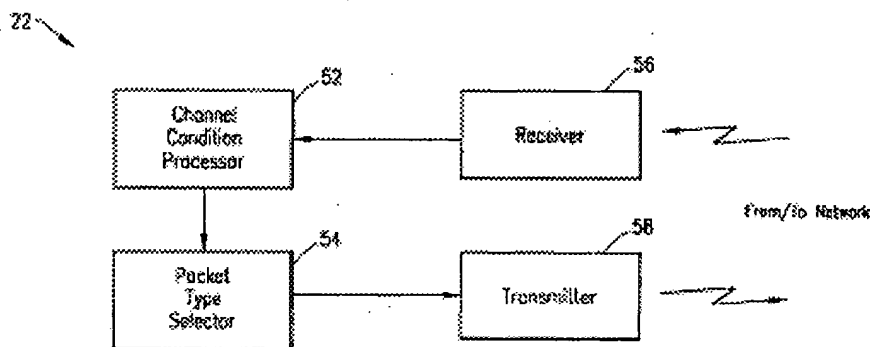
3.1 **Claims 1-25** are rejected under 35 U.S.C. 102 (a) and (e) as being anticipated by HAARTSSEN ET AL. (WO 01 99384; published 27 Dec. 2001; filed 20 June 2000).

As per **Claims 1-25**, HAARTSSEN discloses a data processing system, e.g., ad hoc or wireless network or Bluetooth™ (page 1 last para.) or 802.11 (b) device that dynamically selects packet type, such as packet lengths, or error encoding procedures, based on channel conditions or characteristics, such as packet error rate (PER) in Tables 1-2. Fig. 5 depicts hardware implementation thereof wherein channel conditions are evaluated and selection is made based on comparison of said channel condition evaluation and some preset threshold. Noise abatement

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means, such as interference avoidance (e.g., FHSS or non-FHSS) and suppression (e.g., DSSS), are described, e.g., on page 2 para. 3 - page 3 para. 2.

**As per Claim 1, HAARTSSEN** discloses the claimed means comprising: receiving (numeral 56) a data packet through a wireless channel; evaluating (numeral 52) quality of said wireless channel; calculating a packet error ratio (PER) value for said data packet; checking whether said PER value (numeral 52) is within an acceptable level; and determining whether an intermittent noise is affecting said PER value on page 2 para. 3 - page 3 para. 2.

**FIG. 5**

**As per Claim 2, HAARTSSEN** discloses the claimed means further comprising determining whether said intermittent noise is due to a frequency hopping spread spectrum (FHSS) wireless device on page 2 para. 3 - page 3 para. 2.

**As per Claim 3, HAARTSSEN** discloses the claimed means wherein said data packet is wirelessly transmitted from a first wireless device to a second wireless device at a bit rate, said first and second wireless devices both compatible to a common wireless protocol on page 2 para. 3 - page 3 para. 2.

**As per Claim 4, HAARTSSEN** discloses the claimed means further comprising stepping up said bit rate at which said data packet is transmitted if said PER value is less than a raise rate

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threshold on page 2 para. 3 - page 3 para. 2.

**As per Claim 5, HAARTSSEN** discloses the claimed means further comprising stepping down said bit rate at which said data packet is transmitted if said PER value is greater than a drop rate threshold on page 2 para. 3 - page 3 para. 2.

**As per Claim 6, HAARTSSEN** discloses the claimed means further comprising stepping down said bit rate if said intermittent noise is caused by a non-FHSS or constant interference source on page 2 para. 3 - page 3 para. 2.

**As per Claim 7, HAARTSSEN** discloses the claimed means further comprising propagating against said data rate to said second wireless device in Fig.5.

**As per Claim 8, HAARTSSEN** discloses the claimed means wherein said FHSS wireless device is a Bluetooth device in para. 1 of page 14.

**As per Claim 9, HAARTSSEN** discloses the claimed means wherein said data packet is received at an 802.11 (b) device in para. 1 of page 14.

**As per Claim 10, HAARTSSEN** discloses the claimed means comprising: evaluating (numeral 52) a data packet for any error; checking whether said data packet includes a packet error; calculating (numeral 52) a packet error ratio (PER) for said data packet; and raising data rate setting at which subsequent data packet are transmitted if no packet error exists and said PER is less than a raise rate threshold in Tables 1-2 wherein means are provided for adjusting plural packet characteristics based on channel conditions.

**As per Claim 11, HAARTSSEN** discloses the claimed means further comprising backing off said data rate if an error exists and said PER value is greater than a drop rate threshold in Tables 1-2 wherein means are provided for adjusting plural packet characteristics based on channel conditions.

**As per Claim 12, HAARTSSEN** discloses the claimed means further comprising

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stepping down said data rate if an intermittent noise from a non-FHSS or constant interference source causes a packet error in Tables 1-2 wherein means are provided for adjusting plural packet characteristics based on channel conditions.

**As per Claim 13, HAARTSSEN** discloses the claimed means further comprising: generating a signal strength value and saving said value in a memory location; and evaluating a value for said data packet, wherein said data rate is increased if an average signal strength value based on prior data packets is above a signal strength raise rate threshold in Tables 1-2 wherein means are provided for adjusting plural packet characteristics based on channel conditions.

**As per Claim 14, HAARTSSEN** discloses the claimed means comprising determining whether said packet error is due to intermittent interference on page 2 para. 3 - page 3 para. 2.

**As per Claim 15, HAARTSSEN** discloses the claimed means wherein said intermittent interference is caused from a frequency hopping spread spectrum (FHSS) device on page 2 para. 3 - page 3 para. 2.

**As per Claim 16, HAARTSSEN** discloses the claimed means further comprising stepping down said data rate if said interference is not caused by said FHSS device on page 2 para. 3 - page 3 para. 2.

**As per Claim 17, HAARTSSEN** discloses the claimed means comprising: a wireless transceiver (Fig. 5: numeral 56) to send and receive (Fig. 5: numeral 56) a data packet via wireless communications; a network interface card coupled to said wireless transceiver, said network interface card to connect to another wireless device to form a wireless local area network; and firmware comprising control logic to calculate (Fig. 5: numeral 52) a packet error ratio (PER) value for said data packet, check (Fig. 5: numeral 52) whether said PER value is within an acceptable level, determine whether an intermittent noise is affecting said PER value, step up data transfer rate at which said data packet is transmitted if said PER value is less than a

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raise rate threshold in Tables 1-2 wherein means are provided for adjusting plural packet characteristics based on channel conditions and said intermittent noise is due to a frequency hopping spread spectrum (FHSS) device on page 2 para. 3 - page 3 para. 2.

**As per Claim 18, HAARTSSEN** discloses the claimed means wherein said control logic is to further determine whether said intermittent noise is due to said FHSS wireless device on page 2 para. 3 - page 3 para. 2.

**As per Claim 19, HAARTSSEN** discloses the claimed means wherein said FHSS wireless device is a Bluetooth device in para. 1 of page 14.

**As per Claim 20, HAARTSSEN** discloses the claimed means wherein said apparatus is a 802.11 (b) protocol compatible wireless device in para. 1 of page 14.

**As per Claim 21, HAARTSSEN** discloses the claimed means wherein said control logic is to further step down said bit rate at which said data packet is transmitted if said PER value is greater than a drop rate threshold in Tables 1-2 wherein means are provided for adjusting plural packet characteristics based on channel conditions.

**As per Claim 22, HAARTSSEN** discloses the claimed means wherein said control logic is to further step down said bit rate if said intermittent noise is caused by a non-FHSS source in Tables 1-2 wherein means are provided for adjusting plural packet characteristics based on channel conditions.

**As per Claim 23, HAARTSSEN** discloses the claimed means or machine readable medium having embodied thereon a computer program, said computer program being executable by a machine to perform a method comprising: calculating a packet error ratio (PER) value for said data packet; checking whether said PER value is within an acceptable level in Tables 1-2 wherein means are provided for adjusting plural packet characteristics based on channel conditions; determining whether an intermittent noise is affecting said PER value; determining

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whether said intermittent noise is due to a frequency hopping spread spectrum (FHSS) wireless device on page 2 para. 3 - page 3 para. 2; and stepping up a bit rate at which said data packet is transmitted if said PER value is less than a raise rate threshold in Tables 1-2 wherein means are provided for adjusting plural packet characteristics based on channel conditions.

As per Claim 24, HAARTSSEN discloses the claimed means further comprising stepping down said bit rate at which said data packet is transmitted if said PER value is greater than a drop rate threshold in Tables 1-2 wherein means are provided for adjusting plural packet characteristics based on channel conditions.

As per Claim 25, HAARTSSEN discloses the claimed means further comprising stepping down said bit rate if said intermittent noise is caused by a non-FNSS source in Tables 1-2 wherein means are provided for adjusting plural packet characteristics based on channel conditions.

**3.2** To anticipate under section 102, a prior art reference must disclose all the elements of the claimed invention or their equivalents functioning in essentially the same way. The inquiry as to whether a reference anticipates a claim must focus on what subject matter is encompassed by the claim and what subject matter is described by the reference. As set forth by the court in *Kalman v. Kimberly-Clark Corp.* 713 F.2d 760, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984) it is only necessary for the claims to "'read on' something disclosed in the reference, i.e., all limitations in the claim are found in the reference, or 'fully met' by it." The Examiner respectfully submits that all the limitations of Claims 1-25, or their equivalents functioning in essentially the same way, are found in the HAARTSSEN et al. reference.

### Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



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**4.1** Any response to this action should be mailed to:

Commissioner of Patents and Trademarks, Washington, D.C. 20231

**or faxed to:**

(703) 872-9306, for formal communications intended for entry,

(703) 746-5463 for informal or draft communications, please label "PROPOSED"

or "DRAFT."

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA, Fourth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guy J. Lamarre, P.E., whose telephone number is (703) 305-0755. The examiner can normally be reached on Monday to Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert De Cady, can be reached on (703) 305-9595.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Guy J. Lamarre, P.E.



Patent Examiner

5 Nov. 2003

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